

**Translation**

PATENT COOPERATION TREATY

**PCT**

INTERNATIONAL PRELIMINARY EXAMINATION REPORT

(PCT Article 36 and Rule 70)

Applicant's or agent's file reference <b>H 4299 PCT</b>	<b>FOR FURTHER ACTION</b> See Notification of Transmittal of International Preliminary Examination Report (Form PCT/IPEA/416)	
International application No. <b>PCT/EP00/08774</b>	International filing date (day/month/year) <b>08 September 2000 (08.09.00)</b>	Priority date (day/month/year) <b>17 September 1999 (17.09.99)</b>
International Patent Classification (IPC) or national classification and IPC <b>A61K 7/13</b>		
Applicant <b>HENKEL KOMMANDITGESELLSCHAFT AUF AKTIEN</b>		

1. This international preliminary examination report has been prepared by this International Preliminary Examining Authority and is transmitted to the applicant according to Article 36.

2. This REPORT consists of a total of 5 sheets, including this cover sheet.

☐ This report is also accompanied by ANNEXES, i.e., sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications made before this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions under the PCT).

These annexes consist of a total of \_\_\_\_\_ sheets.

3. This report contains indications relating to the following items:

- I ☒ Basis of the report
- II ☐ Priority
- III ☐ Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- IV ☐ Lack of unity of invention
- V ☒ Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- VI ☐ Certain documents cited
- VII ☐ Certain defects in the international application
- VIII ☒ Certain observations on the international application

Date of submission of the demand <b>07 April 2001 (07.04.01)</b>	Date of completion of this report <b>29 August 2001 (29.08.2001)</b>
Name and mailing address of the IPEA/EP	Authorized officer
Facsimile No.	Telephone No.

**I. Basis of the report****1. With regard to the elements of the international application:\***

- ☐ the international application as originally filed
- ☒ the description:  
pages 1-20, as originally filed  
pages \_\_\_\_\_, filed with the demand  
pages \_\_\_\_\_, filed with the letter of \_\_\_\_\_
- ☒ the claims:  
pages 1-17, as originally filed  
pages \_\_\_\_\_, as amended (together with any statement under Article 19  
pages \_\_\_\_\_, filed with the demand  
pages \_\_\_\_\_, filed with the letter of \_\_\_\_\_
- ☐ the drawings:  
pages \_\_\_\_\_, as originally filed  
pages \_\_\_\_\_, filed with the demand  
pages \_\_\_\_\_, filed with the letter of \_\_\_\_\_
- ☐ the sequence listing part of the description:  
pages \_\_\_\_\_, as originally filed  
pages \_\_\_\_\_, filed with the demand  
pages \_\_\_\_\_, filed with the letter of \_\_\_\_\_

**2. With regard to the language, all the elements marked above were available or furnished to this Authority in the language in which the international application was filed, unless otherwise indicated under this item.**

These elements were available or furnished to this Authority in the following language \_\_\_\_\_ which is:

- ☐ the language of a translation furnished for the purposes of international search (under Rule 23.1(b)).
- ☐ the language of publication of the international application (under Rule 48.3(b)).
- ☐ the language of the translation furnished for the purposes of international preliminary examination (under Rule 55.2 and/or 55.3).

**3. With regard to any nucleotide and/or amino acid sequence disclosed in the international application, the international preliminary examination was carried out on the basis of the sequence listing:**

- ☐ contained in the international application in written form.
- ☐ filed together with the international application in computer readable form.
- ☐ furnished subsequently to this Authority in written form.
- ☐ furnished subsequently to this Authority in computer readable form.
- ☐ The statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.
- ☐ The statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished.

**4. ☐ The amendments have resulted in the cancellation of:**

- ☐ the description, pages \_\_\_\_\_
- ☐ the claims, Nos. \_\_\_\_\_
- ☐ the drawings, sheets/fig \_\_\_\_\_

**5. ☐ This report has been established as if (some of) the amendments had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).\*\***

\* Replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report since they do not contain amendments (Rule 70.16 and 70.17).

\*\* Any replacement sheet containing such amendments must be referred to under item 1 and annexed to this report.

## INTERNATIONAL PRELIMINARY EXAMINATION REPORT

International application No.

PCT/EP 00/08774

## V. Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

## 1. Statement

Novelty (N)	Claims	1-17	YES
	Claims		NO
Inventive step (IS)	Claims	1-17	YES
	Claims		NO
Industrial applicability (IA)	Claims	1-17	YES
	Claims		NO

## 2. Citations and explanations

*Novelty (PCT Article 33(2))*

None of the citations in the international search report discloses 2-nitro-*p*-phenylene diamine derivatives in which at least one *N*-substituent is either a C<sub>7</sub> or a C<sub>8</sub> ring.

Independent Claims 16 and 17, which define individual compounds comprising a C<sub>7</sub> or a C<sub>8</sub> ring are therefore novel.

Correspondingly, independent Claim 1 of the present application, which discloses dyeing and/or colouring agents which comprise such constituents as dyestuffs, should be considered novel.

Use of such compounds for dyeing or colouring, as defined in independent Claim 15, should therefore likewise be considered novel.

Dependent Claims 2-14 described preferred embodiments of the claims to which they relate and consequently likewise meet the criteria for novelty.

*Inventive step (PCT Article 33(3))*

DE-A-35 28 882 (D1), which represents the closest prior art, discloses colouring agents for keratin fibres, in particular human hair, said agents comprising 2-nitro-*p*-phenylene diamine derivatives. However, said derivatives lack annular *N*-substituents.

The present application and D1 address the same problem (that is, improved solubility of 2-nitro-*p*-phenylene diamine derivatives).

D1 solves this problem by the addition of a xanthine derivative.

The present application likewise solves this problem by the specific 2-nitro-*p*-phenylene diamine derivatives described therein without additional constituents. This solution is thus non-obvious and the subject matter of the present application therefore involves an inventive step.

**VIII. Certain observations on the international application**

The following observations on the clarity of the claims, description, and drawings or on the question whether the claims are fully supported by the description, are made:

1. Claim 9 describes merely a use or possibly a process step, not a technical feature of the colouring agent.
2. Claim 10 is unclear, since it cannot be assumed that the colouring agent, as defined in Claim 8, may also be used as a hair-strengthening agent.

It is therefore unclear which agent is claimed and which (possibly additional) constituents this agent comprises.